SIM Medium

Intended Use
SIM Medium is used for determination of H_2S production, indole formation and motility of enteric bacteria.

Summary
Tests for indole production and motility are very commonly used in the identification of microorganisms in the diagnostic microbiology laboratory. A motility-indole medium has been found to be helpful in the identification of the *Enterobacteriaceae*, and especially in the differentiation of *Klebsiella* from *Enterobacter* and *Serratia*. In SIM medium these two tests have been combined with sulphide production test. The production of hydrogen sulphide is a useful diagnostic test in the identification of enteric bacteria and is helpful in the differentiation between *Salmonella* and *Shigella.* Since all these organisms are encountered very often in clinical material, the use of a three in one test can result in a substantial saving of materials and time.

Principle
Peptic digest of animal tissue and cara beef extract serves as a source of carbon, nitrogen, vitamins and minerals. Sodium thiosulphate and peptonized iron are indicators of hydrogen sulfide production. Hydrogen sulphide reacts with peptonized iron to form black precipitate of ferrous sulphide. The use of only 0.30% agar in the medium results in the production of a semi-solid medium, ideal for the examination of motility. Non-motile organisms will grow along the line of inoculation only, whereas motile species will grow away from it.
Peptic digest of animal tissue is also rich in tryptophan, which is attacked by certain microorganisms resulting in the production of indole, which is detected by the addition of Kovac's reagents following the incubation period.

Formula*

Ingredients	**g/L**
Peptic Digest of Animal Tissue	30.0
Cara Beef Extract#	3.0
Peptonized Iron	0.2
Sodium Thiosulphate	0.025
Agar	3.0
Final pH (at 25°C)	7.3 ± 0.2

*Adjusted to suit performance parameters.
Equivalent to Beef Extract.

Storage and Stability
Store dehydrated medium below 30ºC in tightly closed container and the prepared medium at 2ºC-8ºC. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 36.23 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Warm slightly with frequent agitation to dissolve powder completely.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control
Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder.
Prepared Appearance: Semisolid, Yellow to amber coloured, slightly opalescent gel forms in tubes as butts.
Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 30°C-35°C.

Organism (ATCC)	Growth	H2S	Motility	Indole
Escherichia coli (25922)	Good	Negative	Positive	Positive
Shigella flexneri serotype 2b (12022)	Good	Negative	Negative	Negative
Klebsiella pneumoniae subsp. *pneumoniae* (10031)	Good	Negative	Negative	Negative
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (23564)	Good	Positive	Positive	Negative

Key:
H2S: Positive reaction, blackening of medium.
Motility: Positive reaction, growth away from stabline causing turbidity.
Motility: Negative reaction, growth along the stabline, surrounding medium remains clear.
Indole: Positive reaction, red ring at the interface of the medium.

Interpretation of Results

1. Observe for motility (diffuse growth outward from the stab line or turbidity throughout the medium) and for H2S production (blackening along the stab line).
2. For indole test add 0.2 mL of Kovac's Reagent to the tube and allow to stand for 10 minutes. A dark red colour in the reagent constitutes a positive indole test. No change in the original colour of the reagent constitutes a negative test.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

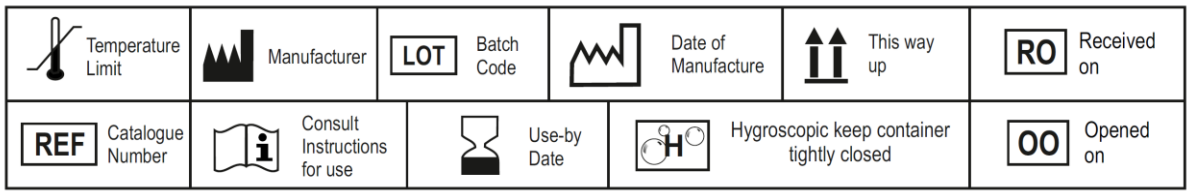
This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Blazevic D. J. (1968) *Appl. Microbiol.* 16. 668.
2. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201190160500	Dehydrated Culture Media	500 g



Revision: 0825/VER-03

Disclaimer
Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.